INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

21st November 2019

Subject SP4 – Pensions and Other Benefits

Time allowed: 3 Hours 15 Minutes (10.15 – 13.30 Hours)

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATES

1. ***Please read the instructions inside the cover page of answer booklet and instructions to examinees sent along with hall ticket carefully and follow without exception.***
2. ***The answers are not expected to be any country or jurisdiction specific. However, if Examples/illustrations are required for any answer, the country or jurisdiction from which they are drawn should be mentioned.***
3. ***Attempt all questions, beginning your answer to each question on a separate sheet.***
4. ***Mark allocations are shown in brackets.***
5. ***Please check if you have received complete Question Paper and no page is missing. If so, kindly get new set of Question Paper from the Invigilator.***

AT THE END OF THE EXAMINATION

Please return your answer book and this question paper to the supervisor separately. You are not allowed to carry the question paper in any form with you.

Q. 1) Your client, which is a private sector Company, used to sponsor a final salary Defined Benefit (DB) Plan for many years. When interest rates dropped sharply in the mid-2000's, the Company decided to cease this plan and moved to a Defined Contribution (DC) plan.

At the time of the switch, the contribution rates for the DC plan were set at the levels which were being paid into the DB plan in the year immediately preceding the effective date of the change.

Under the DC plan, retirement benefits are secured through annuity purchase from an insurance Company when a member retires.

The CFO of the Company has raised a concern with you that members retiring today receive significantly less pension than they would have done under the previous DB plan.

i) Set out the points that you should make to the CFO in your response to his concern. (10)

The CFO has asked for your advice on whether when a pension is provided, the plan should continue to purchase an annuity from an insurance Company or whether annuities should be provided within and by the plan itself, using terms set by the actuary.

ii) Describe to the CFO the disadvantages of providing annuities directly from the plan from the viewpoint of the employer and the members. (8)

[18]

Q. 2) The Government of a country, which has no universal social security, is concerned about the lack of private provision in the country. It is keen to encourage individuals to provide pension benefits for themselves. In order to encourage private provision, the Government will grant tax concessions to schemes who comply with new legislation on benefits.

i) Give reasons why there could be a lack of private provision in the country. (5)

ii) List the tax concessions that could be granted by the Government. (4)

The Government is also considering introducing legislation in relation to the provision of private **Defined Contribution** retirement benefits.

iii) Outline areas where regulations may be imposed. (7)

In addition to the above, the Government wishes to introduce a National Pension System. Under this new scheme an employee will automatically be enrolled in the scheme on joining a company's employment – but will have the right to opt out.

Employers will be required to match employee contributions up to a limit, 5% of basic salary. Contributions would be accumulated in individual accounts to retirement and invested in funds chosen by the individual. At retirement, pension benefits would be bought out with an insurance company. However, employees will have the option to take up to 60% of the accumulated balance as a lump sum at retirement.

The new System will be regulated by the Government.

iv) Outline the advantages and disadvantages of the suggested proposal. (10)

v) State the advantages and disadvantages of offering a lump sum on retirement. (6)
[32]

Q. 3) Once upon a time a giant in the telecom sector, a big Government Telecom Company, PTNL, is in a bad shape now. Being unable to keep abreast of the new technologies in the telecom sector and due to overall problems in the economy for last few years, they have difficulties in running the business and providing salaries to their employees. The Government is planning to provide voluntary retirement to its employees and intends to sell/close the company in the near future.

The trustees of the employees defined benefit scheme are obviously concerned of the protection of retirement benefit of the employees in this situation.

You are the Actuary of the Scheme and hence they have approached you to seek advice in this regard.

i) Suggest the possible methods of the provisions of the employee benefit scheme if the scheme is being discontinued. (3)

The trustees are considering offering the option of the transfer of funds to the beneficiaries to extinguish the liabilities as they believe that it is the safest option to have the benefits in hand given the current situation of the Government being unable to run the Company itself.

ii) Outline the issues you believe the trustees should consider before adopting this policy. (4)

iii) The trustees have decided to go ahead with this policy. Outline the issues they need to consider when setting the terms. (8)

One of the trustees is of the view that this scheme should rather be merged with another new defined pension scheme of the Government.

iv) Suggest advantages of pooling the assets of a discontinued scheme with those of a relatively immature scheme if it is sold. (3)

The Government rather intends to discontinue the scheme and use the central discontinuance fund for member's benefits.

v) What are the disadvantages of providing security for members' benefits through a central discontinuance fund, which is financed using a universal levy equal to a percentage of scheme assets? (3)

The Government has decided to sell the company finally to a new private player in the Telecom Industry. You are a Scheme Actuary who is involved in the taking over the employee benefits from PTNL.

Given the short amount of time for the merger, it is not possible to go through the detailed level of checking of the data and you are left with only publically available accounts and membership data in a summarised form.

vi) Explain how the accounts of a funded pension scheme may be used to check the valuation data. (5)

vii) State, with reasons, the disadvantages to the actuary of accepting membership data in summarised form for the purposes of an actuarial valuation. (2)

viii) Describe the circumstances in which it might be necessary to accept such data. (2)
[30]

Q. 4) You are the actuary to a Gratuity scheme. The formula for the gratuity is (15/26 * Completed years of service * last drawn monthly basic salary); 15 being wages for 15 days and 26 being the days of the month.

The CEO has plans to increase the number of the days (from 15 to say 18 or 20) to attract and retain staff however the increase depends on how the surplus has arisen.

i) Discuss the main reasons for analysing a surplus or deficit. (2)

In the last year, however, there have been some deaths of the serving employees and the Finance Director is concerned that this would have an impact on the funding of the defined benefit liabilities.

ii) Discuss briefly the impact that pre-retirement mortality experience may have on surplus of this defined benefit scheme. (4)

Next year, the results of the valuation show that now assets are somewhat lower than the assessed value of liabilities however the assumptions for yearly valuation have not changed except a change in the assumption in the discount rate at which liabilities are discounted. The discount rate was dependent on the current bond rate.

The finance director has expressed surprise because at the previous valuation assets exceeded liabilities.

iii) Describe with reasons why the funding position could have changed between the two valuation dates. (9)

iv) Describe what information would be required before performing an asset liability modelling exercise using a stochastic model. (5)
[20]

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